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10/660,014	09/11/2003	James Russell Boykin	AUS920030622US1	5891

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EXAMINER	
MITCHELL, JASON D	

ART UNIT	PAPER NUMBER
2193	

NOTIFICATION DATE	DELIVERY MODE
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary

Application No.

10/660,014

Applicant(s)

BOYKIN ET AL.

Examiner

Jason Mitchell

Art Unit

2193

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 26 December 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 2-22 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 2-22 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 12/26/07 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

1. Claims 2-22 are pending in this application.

Response to Arguments

2. **101 Rejection of Claim 22:**

The paragraph bridging pp. 24 and 25 of the Applicants' specification indicates that computer readable medium should be read to include "transmission-type media, such as ... radio frequency and light wave transmissions". Computer program instructions "in" a radio frequency or light wave transmission are not considered statutory embodiments. Accordingly the rejection is maintained. Examiner notes that, if the Applicants so choose, an amendment to recite "a computer program product in a computer recordable-type medium" would overcome this rejection.

103(a) rejection of claims 2-3 and 10-11:

Claim 2:

In the 2nd par. on pg. 13, the Applicants assert:

Susarla, in fact, appears to provide no teaching whatever in regard to the loading of plug-ins, which are extensions meant to extend the behavior of application classes, as is known by those of ordinary skill in the art. To the contrary, Susarla is concerned with an entirely different issue, that is, the dynamic reloading of classes, which may become necessary when classes used by an application have been changed.

The examiner respectfully disagrees. As indicated in the rejection Susarla's 'module class loaders' (e.g. Fig. 4, 204A-B) have been mapped to the claimed 'plug-in

class loaders'. The Applicants have not asserted a functional distinction between these objects. Those of ordinary skill in the art would have recognized that the disclosed code 'modules' provide functionality to an application and thus 'extend the behavior' of that application. Further Susarla discloses "Each module in the application may be associated with its own class loader" (e.g. abstract). Accordingly, Susarla anticipates the claimed plug-in class loaders.

In the first full par. on pg. 14, the Applicants assert:

It is readily apparent that [the abstract, par. [0007] and Figure 4] of Susarla ... fails to disclose or suggest, or provide any reason for, the Feature (1) recitation of providing a different plug-in class loader for each class loader in a class loader hierarchy, wherein each plug-in class loader delegates to its associated class loader. ... The cited sections of Susarla also fail to disclose or suggest the Feature (1) recitation that each plug-in class loader is associated with only a single class loader of the hierarchy. The selections likewise fail to provide any reason as to why such limitation would be beneficial in the arrangement of Susarla.

First, it is noted that the Applicants have not addressed the examiner's asserted motivation for the combination (i.e. to provide the disclosed dynamic object loading at the system level) instead merely making a general assertion of patentability.

Further, the applicants have not argued that the addition of a 'plug-in' or 'module' class loader at the system level would produce some result not expected by those of ordinary skill in the art at the time of invention.

Claims 3 and 10-11:

The Applicants make the unpersuasive assertions that 1) these claims are not anticipated by Susarla for the reasons presented in conjunction with claim 2 (see above) and 2) make general assertion that the newly added limitations are not disclosed or obvious (see the rejection below).

Claim Rejections - 35 USC § 101

3. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

4. **Claim 22 is rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.**

5. **Claim 22 is not limited to tangible embodiments.**

Claim 22 not limited to statutory embodiments. In view of Applicant's disclosure, (see the paragraph bridging pp. 24 and 25) the claimed medium is not limited to statutory embodiments, instead being defined as including both statutory embodiments (e.g., e.g., "recordable-type media, such as a floppy disk") and non-statutory embodiments (e.g., "transmission-type media, such as ... radio frequency and light wave transmissions"). As such, the claim is not limited to statutory subject matter and is therefore non-statutory.

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

7. **Claims 2, 3, 7-12 and 17-22 are rejected under 35 U.S.C. 103(a) as unpatentable over US 2004/0015936 to Susarla et al. (Susarla).**

8. **Regarding Claims 2, 12 and 22:** Susarla discloses a computer implemented method for selecting a class loader for a plug-in, the method comprising:

generating a class loader hierarchy (Fig. 4) comprising a plurality of class loaders that includes two or more application class loaders, one for each of two or more application classes (par. [0101] "Each application may include an application class loader 202"), wherein each of said application class loaders can selectively load its application class, or delegate the loading of its application class to another class loader of said class loader hierarchy (par. [0017] "a delegation mechanism");

providing plug-in class loader for each application class loader in the class loader hierarchy (Fig 4, Module Class Loader 204A), wherein each plug-in class loader is associated with only a single class loader of said hierarchy, and each plug-in class loader delegates to its associated class loader (Fig. 4 Application Class Loader 202; note class loaders 206 and 208 are optional (see par. [0101]), thus loaders 204A and B

are disclosed, in some embodiments, as associated with only a single class loader i.e. loader 202);

identifying the class loader of said hierarchy that is used to load a specified one of said two or more application classes (par. [0138] "The class loader controller may ... locate the appropriate class loader in the stack"); and

using the plug-in class loader that is provided for and delegates to said identified class loader to load a plug-in class that is associated with said specified application class (par. [0138] "The class loader controller may ... invoke the located class loader").

9. Susarla does not explicitly disclose providing a different plug-in class loader for each class loader in the hierarchy (specifically, the System Class Loader 200 of Fig. 4 is not shown as having a plug-in class loader).

10. It would have been obvious to one of ordinary skill in the art at the time the invention was made to provide a different plug-in class loader (Fig. 4, Module Class Loader 204A) for each class loader in the Hierarchy (i.e. Fig. 4, System Class Loader 200) in order to provide 'dynamic class reloading' (see Abstract) at the system level as in addition to the application level (par. [0007] "The system class loader loads the standard classes and the application server core classes, and the application class loader loads the user-defined classes").

11. **Regarding Claim 3:** The rejection of claim 1 is incorporated; further, Susarla discloses an application file is associated with said plug-in classes, and said plug-in class loader that is associated with said identified class loader is enabled to locate said given plug-in class by specifying a single configuration value in said application file (par. [0184] “an add class path method that may adds [sic] the directory path to the application class loader’s class path repository”).

12. **Regarding Claims 7 and 17:** The rejections of claims 2 and 12 are incorporated, respectively; further Susarla discloses

identifying said plug-in class loader that is provided for and delegates to said identified class loader (par. [0141] “locate the class loader responsible for loading the class in the hierarchical stack of class loaders.”).

13. **Regarding Claims 8 and 18:** The rejections of claims 2 and 12 are incorporated, respectively; further Susarla discloses:

responsive to a first application class loading a first plug-in class, identifying a target class loader within the class loader hierarchy that loaded a target class (par. [0141] “locate the class loader responsible for loading the class”);

identifying a plug-in class loader that is provided for and delegates to the target class loader (par. [0141] “If there are one or more classes that depend on the class to be reloaded, the class loaders responsible for reloading the dependent classes may be located and replaced as well”); and

loading the first plug-in class using the plug-in class loader (par. [0141] "the new class loader may load the changed classes").

14. **Regarding Claims 9 and 19:** The rejections of claims 8 and 18 are incorporated, respectively; further Susarla discloses the step of identifying a target class loader within the class loader hierarchy that loaded a target class includes using a class loader that loaded the application class to look up the target class (par. [0141] "If there are one or more classes that depend on the class to be reloaded, the class loaders responsible for reloading the dependent classes may be located and replaced as well").

15. **Regarding Claims 10 and 20:** The rejections of claims 2 and 20 are incorporated, respectively; further Susarla discloses

a particular one of said application classes is loaded by a particular class loader of said class loader hierarchy (par. [0101] "Each application may include an application class loader 202"), and a first plug-in class associated with a first application class and a second plug-in class associated with a second application class (par. [101] "At the layer below the application class loader 202 are the module level loaders 204") are each specified to use the class loader of said particular application; and

said first plug-in class and said second plug-in class are both loaded by the plug-in class loader that is associated with and delegates to said particular class loader (par. [0017] "A loader ... can forward the request to its parent").

16. **Regarding Claims 11 and 21:** The rejections of claims 10 and 20 are incorporated, respectively; further Susarla discloses the first plug-in class and the second plug-in class share data (par. [0159] "All the class paths may also be added to the application class loader").

17. **Claims 4-6 and 13-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over US 2004/0015936 to Susarla et al. (Susarla) in view of Applicant admitted prior art (AAPA).**

18. **Regarding Claims 4-6 and 13-16:** Susarla does not explicitly disclose the plurality of class loaders including boot class, extension, system and one or more application class loaders.

19. AAPA teaches that the claimed boot class, extension, system and one or more application class loaders (see Fig. 5B 530, 520, 510, 502 and 504) were in common use at the time of the invention (pg. 17, 3rd para. "Figure 5B illustrates ... the common class loader hierarchy").

20. It would have been obvious to one of ordinary skill in the art at the time the invention was made to combine the teachings Susarla and AAPA to provide "Dynamic class reloading using a modular, pluggable and maintainable class loader" (Susarla Abstract; also see par. [0070] "the dynamic class reloading mechanism ... may be used with Java 2 Enterprise Edition (J2EE)").


Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jason Mitchell whose telephone number is (571) 272-3728. The examiner can normally be reached on Monday-Thursday and alternate Fridays 7:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Meng-Ai An can be reached on (571) 272-3756. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Jason Mitchell
Jason Mitchell
1/29/08



TUAN VU
PRIMARY EXAMINER

2-04-08